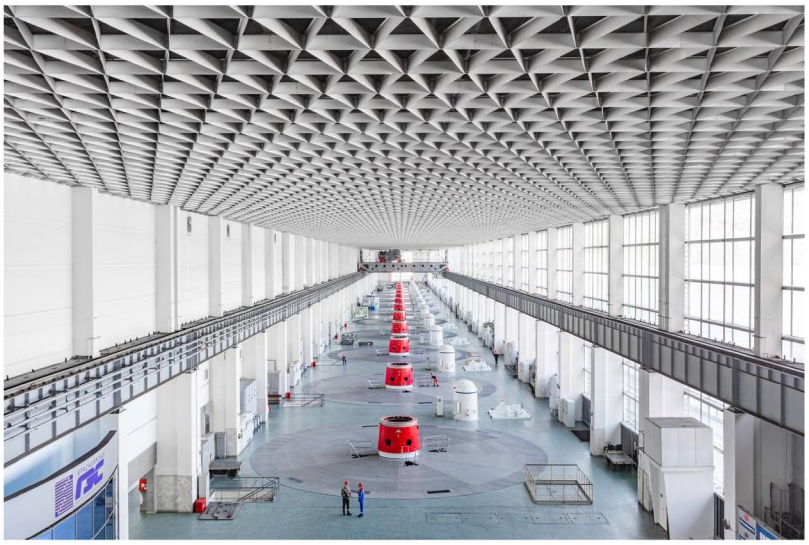
BUSINESS

This Metal Maker Is Greener Than Rivals, but the Market Doesn't Care—Yet

En+ Group, which makes its aluminum with fewer emissions than Chinese rivals, wants to create a market for low-carbon metal



The hydroelectricity from power plants like Krasnoyarsk in Siberia is used to produce aluminum with one-fifth the emissions of coal-fired aluminum smelters in China.

PHOTO: EN+ GROUP

By Russell Gold

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What if you can make something with fewer greenhouse-gas emissions than your competitors, but get no financial benefit? It's a business problem Gregory Barker is trying to solve.

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Mr. Barker is the executive chairman of En+ Group PLC, the world's largest aluminum maker outside China. It uses hydroelectricity to power smelters in Siberia that make aluminum with one-fifth the emissions of rivals in China burning coal.

But there's no market for low-carbon aluminum, and the provenance of metal is hard to promote. Even when you can certify aluminum is low-carbon, there is no premium for it.

This highlights the challenge of decarbonizing metals manufacturing and other heavy industries, which contribute an estimated 26% of global greenhouse-gas emissions, according to the International Energy Agency. Aluminum smelting, alongside cement, iron, chemicals and steel manufacturing, are all major greenhouse-gas contributors.

Mr. Barker, who served as U.K. minister of energy and climate change under former Prime Minister David Cameron, wants to help change this by creating a new globally traded commodity: low-carbon aluminum. Progress has been slow.

The Krasnoyarsk hydro plant is one of the largest dams and low-carbon power generators in Siberia.
PHOTO: EN+ GROUP

Aluminum "is a very conservative industry and I think a number of people don't want to move until they absolutely have to," he said. "Exactly how this new asset class emerges is difficult to predict accurately, but there is clearly demand there."

By most accounts, aluminum has a growing role to play in the emerging lower-carbon economy. Aluminum makes up about 8% of solar panels, by weight, and it is also used to make automobiles lighter and more fuel efficient. Consumer goods sold in aluminum packaging can be recycled.

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But finding out the carbon-intensity of a ton of aluminum, whether it was made by burning coal or harnessing rivers, can be very difficult. So far, the bulk of the global aluminum market is more motivated by price than by emissions or other climate considerations.

Mr. Barker is pushing the London Metal Exchange, the world's largest futures market for trading metals contracts, to create a new contract for low-carbon aluminum. In August, the exchange said it was developing a system to allow aluminum sellers on the spot market to provide, on a voluntary basis, information about carbon and other sustainability measures. It would be "an online marketplace providing price discovery and trading of sustainably sourced metal, starting with aluminum," LME spokeswoman Miriam Heywood said.

Mr. Barker calls that insufficient. He wants mandatory carbon disclosures applied to the futures market, where 98% of aluminum contracts on the London Metal Exchange are traded. No other group has publicly supported Mr. Barker's calls for broad changes.

Interest in low-carbon aluminum is "increasing exponentially," said Jorge Vazquez, managing director of Harbor Aluminum, a market intelligence firm based in Austin, Texas.

That hasn't translated into higher prices yet. "The premium is zero," Mr. Vazquez said. Though he expects a premium of up to a 1% might emerge next year, that is likely too small to cause any market realignment, he added.

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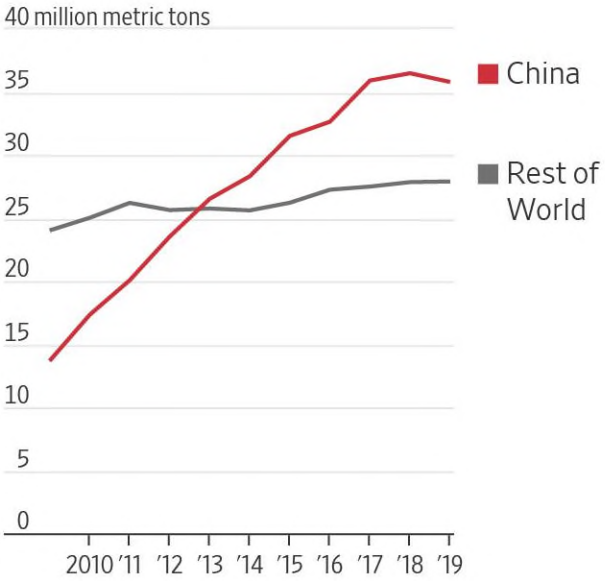
Carbon Connection

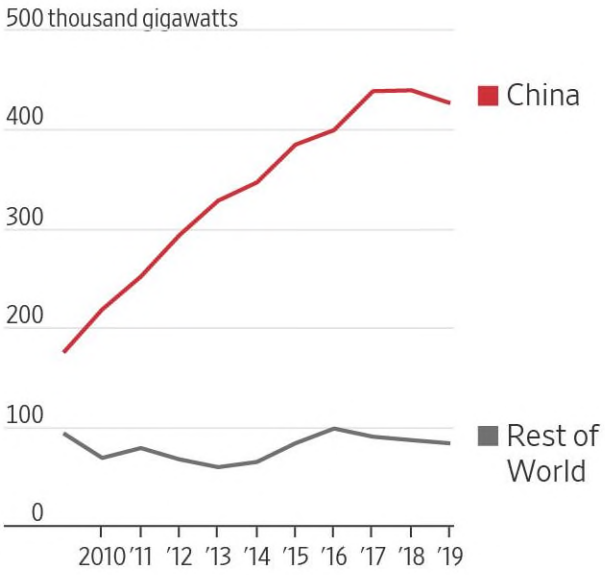
As China's aluminum output has grown sharply...

Annual aluminum production



...its reliance on burning coal to power its smelters has also increased sharply.

Amount of coal-fired electricity generated to produce aluminum



Source: International Aluminum Institute

Currently, it is impossible for most purchasers of aluminum to even know whether their base metal comes from a coal-fired or a hydroelectric smelter.

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"If I'm a window-frame maker and I go and buy a bunch of aluminum, no one can tell me what the embedded amount of carbon is," said David Dye, a professor of metallurgy at Imperial College in London. "The industry is not set up to do it yet."

Some aluminum companies, including En+ and Alcoa Corp. , offer specialty aluminums they certify to be low carbon, but these remain relatively niche products. Alcoa's chief commercial officer, Tim Reyes, said he believes consumer appetite will grow.

"At this point we're optimistic that it will become of greater importance to our customers and our customers' customers," Mr. Reyes said.

Some large purchasers that want to be able to market their products as low carbon can arrange to get it from low-carbon smelters. Apple Inc., for instance, said it gives priority to purchasing aluminum smelted using hydroelectricity and using recycled aluminum scrap to cut its carbon footprint.

Still, most aluminum is traded without any consideration of its greenhouse-gas footprint. More than half of the global supply comes from China, where almost all manufacturers burn coal to power the smelters that make the metal, according to data from the International Aluminium Institute, a global trade group based in London.

Last year, Chinese aluminum smelters used more electricity than the U.K. used to run its entire economy. China's smelters burn more coal than all but three countries: India, the U.S. and China itself.

Gregory Barker, En+'s executive chairman, is pushing the London Metal Exchange to create a new contract for low-carbon aluminum.

PHOTO: ALESSANDRO DELLA VALLE/SHUTTERSTOCK

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En+ didn't set out to build low-carbon aluminum manufacturing. That was happenstance. Through Rusal Ltd. , the company owns four massive dams on rivers that drain Lake Baikal. The dams, and the aluminum smelters built to soak up the enormous amount of excess hydroelectricity, were built in the Soviet era, and ended up owned by Oleg Deripaska, a Russian oligarch who turned Rusal into a global aluminum giant.

The U.S. government-imposed sanctions on Rusal in April 2018 in retribution for Russia's alleged meddling in the 2016 U.S. presidential election. Sanctions were lifted last year, after Mr. Deripaska agreed to surrender his majority ownership of the company. En+'s board was revamped to include a majority of independent directors, including Mr. Barker.

Mr. Barker said he is trying to leverage En+'s position as the world's leading low-carbon manufacturer to attract investors and strengthen the company's bottom line. En+ reported a $1.3 billion profit last year, on revenue of $11.8 billion. Its net income was down 30%, mainly because of lower global aluminum prices.

"We are determined to be a winner," said Mr. Barker. "If you are a producer of aluminum and you can't find another way to generate the power you need to smelt your aluminum, other than by using coal, then you have no long-term future. It might be unfair, but that is life."

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